1714 ~~0430~~ 1700 ~~0400~~

Patent
Attorney's Docket No. 005950-763

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
)
Dahl, et al.) Group Art Unit: Unassigned
)
Application No.: 10/017,821)
) Examiner: Unassigned
Filed: December 12, 2001)
)
For: PROCESSES FOR THE PURIFICATION)
OF HIGHER DIAMONDOIDS AND)
COMPOSITIONS COMPRISING SUCH)
DIAMONDOIDS)

INFORMATION DISCLOSURE STATEMENT
TRANSMITTAL LETTER

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed is an Information Disclosure Statement and accompanying form PTO-1449 for the above-identified patent application.

[x] No additional fee for submission of an IDS is required.

[ ] The fee of $180.00 (126) as set forth in 37 C.F.R. § 1.17(p) is also enclosed.

[ ] A certification under 37 C.F.R. § 1.97(e) is also enclosed.

[ ] A certification under 37 C.F.R. § 1.97(e), and the fee of $180.00 (126) as set forth in 37 C.F.R. § 1.17(p) are also enclosed.

[ ] Charge $_____ to Deposit Account No. 02-4800 for the fee due.

[ ] A check in the amount of $_____ is enclosed for the fee due.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: _____
William H. Benz
Registration No. 25,952

P.O. Box 1404
Alexandria, Virginia 22313-1404
(650) 622-2300

Date: 2/12/02

(10/01)

2

Patent
Attorney's Docket No. 005950-763

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
DAHL, et al.	
Application No.:10/017,821	Group Art Unit: Unassigned
Filed: December 12, 2001	Examiner: Unassigned
For: PROCESSES FOR THE PURIFICATION OF HIGHER DIAMONDOIDS AND COMPOSITIONS COMPRISING SUCH DIAMONDOIDS	

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. Pursuant to 37 C.F.R. § 1.98(d), copies of the references cited below are included herewith:

U.S. Patents

Patent Number	Name	Issue Date
3,457,318	Capaldi	7/22/69
3,832,332	Thompson	8/27/74
4,952,757	Alexander	8/28/90
4,952,748	Alexander	8/28/90

Patent Number	Name	Issue Date
4,952,749	Alexander	8/28/90
4,982,049	Alexander	1/1/91
5,017,734	Baum	5/21/91
5,019,665	Partridge	5/28/91
5,245,104	Cullick	9/14/93
5,268,513	Shen	12/7/93
5,298,666	Shen	3/29/94
5,306,851	Wu	4/26/94
5,347,063	Shen	9/13/94
5,369,213	Shen	11/29/94
5,380,947	Chen	1/10/95
5,382,684	Moini	1/17/95
5,397,488	Chen	3/14/95
5,410,092	Shen	4/25/95
5,414,189	Chen	5/9/95
5,430,193	Shen	7/4/95
5,461,184	Swanson	10/24/95
5,498,812	Bradway	3/12/96
5,576,355	Chen	11/19/96
6,235,851	Ishii	5/22/01

Foreign Patents

WO 95/11472	4/27/95
EP 0399 851	11/20/96

Articles

Aczel, et al., "Stability of Adamantane and its Derivatives to Coal-liquefaction Conditions, and its implications toward the organic structure of Coal", *Fuel*, Vol. 58, pp. 228-230, (3/1979)

Balaban, et al., Systemic Classification and Nomenclature of Diamond Hydrocarbons-I, *Tetrahedron*, 34, pp. 3599-3606, (1978)

Badziag, P., et al., "Nanometre-sized Diamonds are More Stable than Graphite", *Nature,* Vol. 343, pp. 244-245, and 517

Bagrii, Ye, et al., "Catalytic Breakdown of Paraffinic Hydrocarbons in the Presence of Adamantanes", *Petrol. Chem USSR*, Vol. 30, No. 2, pp. 131-134, (1990)

Chung, et al., Recent Development in High-Energy Density Liquid Fuels, *Energy and Fuels*, 13, pp. 641-649, (1999)

Dahl, J., et al., Diamondoid Hydrocarbons as Indicators of Natural Oil Cracking, *Nature*, 399, pp. 54-57, (1999)

Drexler, Eric K., *Nanosystems: Molecular Machinery Manufacturing and Computation*, John Wiley & Sons, pp.238-249, (1992)

Fort, Jr., et al., Adamantane: Consequences of the Diamondoid Structure, *Chem. Rev.*, 64, pp. 277-300, (19640

Hala, V.S., et al., "Analyse Unds erwendung on Pyrolyseol", *Jahrgang*, pp. 85-87, (2/1971) In German- English Abstract on page 85.

Landa, S., "Adamantane and Its Homologues", *Current Science*, Gangalore, India, Vo. 32, pp. 485-489 (1963)

Lin, et al., Natrual Occurrence of Tetramantane ($C_{22}H_{36}$), Pentamantane ($C_{26}H_{32}$), and Hexamantane ($C_{30}H_{36}$) in a Deep Petroleum Reservoir, *Fuel*, 74:10, pp. 1512-1521, (1995)

McKervey, Synthetic Approaches to Large Diamondoid Hydrocarbonds, *Tetrahedron*, 36, pp. 971-992, (1980)

Machacek, V., et al., "Let Od Objeveni Adamantanu", *Chemicke Listy/svazek*, pp. 753-761, (1982) Russian - English Abstract on p. 761.

Oya, A, et al., "Carbonization of Adamantanes to a Graphitizable Carbon", *Fuel*, Vol. 60, pp. 667-669, (8/1981).

Petrov, A., "Hydrocarbons of Adamantane Series as Indicies of Petroleum Catagenesis Process", *Advances in Organic Geo Chemistry*, 6th International Meeting on Organic Geochemistry, pp. 517-522 (1973).

Prusova, D., Liquid Chromatography of Adamantanes and Carbon Adsorbents", *J. Chrom*, 234, pp. 1-11, (1982).

Rollman, L., et al., "Adamantanes From Petroleum, with Zeolites", American Chemical Study, 210th ACS National Meeting, Abstract and paper, 8/20/95) .

Sandia National Laboratories (2000), World's First Diamond Micromachines Created at Sandia, Press Release, (2/22/2000), www.Sandia.gov

Schleyer, P., et al., "Nonacyclo[11.7.1.1^{2,18}.0^{3,16}.0^{4,13}.0^{5,10}.0^{6,14}.0^{7,11}.0^{15,20}]-Docosane, a Bastard Tetramantane", *J. of the Am. Chem. Soc.*, 90:8, letter to the editor, 8/28/68.

Shen, M., et al., "Finite T_d Symmetry Models for Diamond: From Adamantane to Superadamantane ($C_{35}H_{36}$), *J. Am., Chem. Soc.*, Vol. 114, No. 2, pp 497-505, (1992).

Supryadkina, NY, et al., "Catalytic Dealkylation of Alkyladamantanes", *Petrol. Chem., USSR*, Vol. 28, No. 2, pp. 103-110, (1988)

Tominaga, K., et al., "Next-generation Fine Chemicals Raw Material-Adamantane", *Chem Econ & Eng. Review*, Vol. 17, No. 10, pp. 23-29, (10/1985).

Vodicka, L, et al., "High Performance Liquid Chromatography of Halogeno Derivatives of Adamantane and Diamantane", *J. Chrom*, 270, pp. 199-205, (1983).

Wingert, W., "G.c.-m.s. Analysis of Diamondoid Hydrocarbons in Smackover Petroleums", *Fuel*, Vol. 71, pp. 37-42, (1/1992)

The documents are being submitted within three months of the filing or entry of the national stage of this application or before the first Office Action on the merits, whichever is later, therefore no fee or certification is required under 37 C.F.R. §1.97(b).

While this Information Disclosure Statement may contain "material" information pursuant to 37 C.F.R. § 1.56, it is not intended to constitute an admission that any patent, publication or other information referred to herein is "prior art" to the invention disclosed and claimed in the above-referenced application unless specifically designated as such.

Applicants specifically reserve the right, where appropriate, to antedate any such reference by the appropriate showing under 37 C.F.R. § 1.131 and § 1.608, or any other appropriate means.

This Information Disclosure Statement is not a representation that a search has been made or that no other information material to the patentability of this invention exists. To assist the Examiner, the document are listed on the attached form PTO-1449. It is respectfully requested that an Examiner-initialed copy of this form be returned to the undersigned.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: _____
William H. Benz
Registration No. 25,952

P.O. Box 1404
Alexandria, Virginia 22313-1404
Phone: (650) 622-2300

Date:

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

ATTORNEY'S DKT NO.	APPLICATION NO.
005950-763	10/017,821
APPLICANT: Dahl, et al.	
FILING DATE: Herewith	GROUP: Unassigned

U.S. PATENT DOCUMENTS

Examiner Initials	U.S. Patent Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication (MM-DD-YYYY)
	3,457,318		Capaldi	7/22/69
	3,832,332		Thompson	8/27/74
	4,952,757		Alexander	8/29/90
	4,952,748		Alexander	8/28/90
	4,952,749		Alexander	8/28/90
	4,982,049		Alexander	1/1/91
	5,017,734		Baum	5/21/91
	5,019,665		Partridge	5/28/91
	5,245,104		Cullick	9/14/93
	5,268,513		Shen	12/7/93
	5,298,666		Shen	3/29/94
	5,306,851		Wu	4/26/94
	5,347,063		Shen	9/13/94
	5,369,213		Shen	11/29/94
	5,380,947		Chen	1/10/95
	5,382,684		Moini	1/17/95
	5,397,488		Chen	3/14/95
	5,410,092		Shen	4/25/95
	5,414,189		Chen	5/9/95
	5,430,193		Shen	7/4/95
	5,461,184		Swanson	10/24/95
	5,498,812		Bradway	3/12/96
	5,576,355		Chen	11/19/96
	6,235,851		Ishii	5/22/01

FOREIGN PATENT DOCUMENTS

Examiner Initials	Foreign Patent Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)
	WO 95/11472		PCT	4/27/95
	EP 0399851		Europe	11/20/96

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Aczel, et al., "Stability of Adamantane and its Derivatives to Coal-liquefaction Conditions, and its implications toward the organic structure of Coal", *Fuel*, Vol. 58, pp. 228-230, (3/1979)

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

ATTORNEY'S DKT NO.	APPLICATION NO.
005950-763	10/017,821
APPLICANT: Dahl, et al.	
FILING DATE: Herewith	GROUP: Unassigned

	Balaban, et al., Systemic Classification and Nomenclature of Diamond Hydrocarbons-I, *Tetrahedron*, 34, pp. 3599-3606, (1978)
	Badziag, P., et al., "Nanometre-sized Diamonds are More Stable than Graphite", *Nature,* Vol. 343, pp. 244-245, and 517
	Bagrii, Ye, et al., "Catalytic Breakdown of Paraffinic Hydrocarbons in the Presence of Adamantanes", *Petrol. Chem USSR*, Vol. 30, No. 2, pp. 131-134, (1990)
	Chung, et al., Recent Development in High-Energy Density Liquid Fuels, *Energy and Fuels*, 13, pp. 641-649, (1999)
	Dahl, J., et al., Diamondoid Hydrocarbons as Indicators of Natural Oil Cracking, *Nature*, 399, pp. 54-57, (1999)
	Drexler, Eric K., *Nanosystems: Molecular Machinery Manufacturing and Computation*, John Wiley & Sons, pp.238-249, (1992)
	Fort, Jr., et al., Adamantane: Consequences of the Diamondoid Structure, *Chem. Rev.*, 64, pp. 277-300, (1964)
	Hala, V.S., et al., "Analyse Unds erwendung on Pyrolyseol", *Jahrgang*, pp. 85-87, (2/1971) In German- English Abstract on page 85.
	Landa, S., "Adamantane and Its Homologues", *Current Science*, Gangalore, India, Vo. 32, pp. 485-489 (1963)
	Lin, et al., Natrual Occurrence of Tetramantane ($C_{22}H_{36}$), Pentamantane ($C_{26}H_{32}$), and Hexamantane ($C_{30}H_{36}$) in a Deep Petroleum Reservoir, *Fuel*, 74:10, pp. 1512-1521, (1995)
	McKervey, Synthetic Approaches to Large Diamondoid Hydrocarbonds, *Tetrahedron*, 36, pp. 971-992, (1980)
	Machacek, V., et al., "Let Od Objeveni Adamantanu", *Chemicke Listy/svazek*, pp. 753-761, (1982) Russian - English Abstract on p. 761.
	Oya, A, et al., "Carbonization of Adamantanes to a Graphitizable Carbon", *Fuel*, Vol. 60, pp. 667-669, (8/1981).
	Petrov, A., "Hydrocarbons of Adamantane Series as Indicies of Petroleum Catagenesis Process", *Advances in Organic Geo Chemistry*, 6th International Meeting on Organic Geochemistry, pp. 517-522 (1973).
	Prusova, D., Liquid Chromatography of Adamantanes and Carbon Adsorbents", *J. Chrom*, 234, pp. 1-11, (1982).
	Rollman, L., et al., "Adamantanes From Petroleum, with Zeolites", American Chemical Study, 210th ACS National Meeting, Abstract and paper, 8/20/95) .
	Sandia National Laboratories (2000), World's First Diamond Micromachines Created at Sandia, Press Release, (2/22/2000), www.Sandia.gov
	Schleyer, P., et al., "Nonacyclo[11.7.1.1^{2,18}.0^{3,16}.0^{4,13}.0^{5,10}.0^{6,14}.0^{7,11}.0^{15,20}]-Docosane, a Bastard Tetramantane", *J. of the Am. Chem. Soc.*, 90:8, letter to the editor, 8/28/68.

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

Substitute for form 1449A/PTO	ATTORNEY'S DKT NO. 005950-763	APPLICATION NO. 10/017,821
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT Dahl, et al.	
	FILING DATE Herewith	GROUP Unassigned

	Shen, M., et al., "Finite T_d Symmetry Models for Diamond: From Adamantane to Superadamantane ($C_{35}H_{36}$), *J. Am., Chem. Soc.*, Vol. 114, No. 2, pp 497-505, (1992).
	Supryadkina, NY, et al., "Catalytic Dealkylation of Alkyladamantanes", *Petrol. Chem., USSR*, Vol. 28, No. 2, pp. 103-110, (1988)
	Tominaga, K., et al., "Next-generation Fine Chemicals Raw Material-Adamantane", *Chem Econ & Eng. Review*, Vol. 17, No. 10, pp. 23-29, (10/1985).
	Vodicka, L, et al., "High Performance Liquid Chromatography of Halogeno Derivatives of Adamantane and Diamantane", *J. Chrom*, 270, pp. 199-205, (1983).
	Wingert, W., "G.c.-m.s. Analysis of Diamondoid Hydrocarbons in Smackover Petroleums", *Fuel*, Vol. 71, pp. 37-42, (1/1992)

Examiner Signature		Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.